Amendments to the Claims:

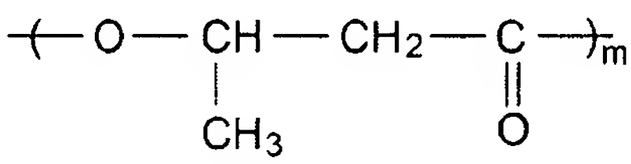
This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for preparing a PHA block copolymer having orientation-induced rubber-elasticity and temperature-sensitive shape memory effects by biosynthesis using microorganisms, ~~comprising~~

wherein the PHA block copolymer comprises:

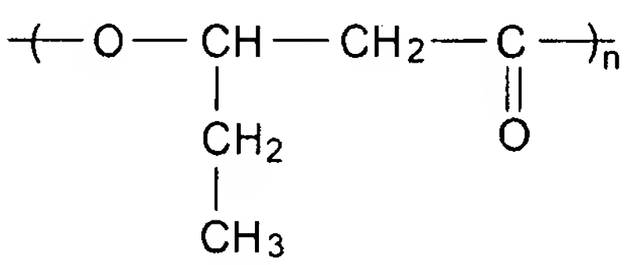
a plurality of 3-hydroxybutyrate (3HB) blocks of Formula 1 as a repeating unit:



(Formula 1)

wherein m is not less than 2; and

a plurality of 3-hydroxyvalerate (3HV) blocks of Formula 2 as a repeating unit:



(Formula 2)

wherein n is not less than 2; and

the PHA block copolymer is prepared using saturated and/or unsaturated carboxylic acid as a carbon source and a *Pseudomonas* sp. HJ-2 strain (Accession No. KCTC 0406 BP).

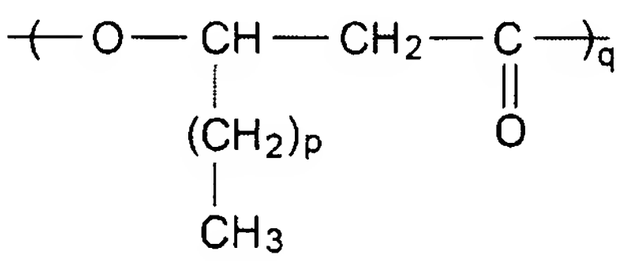
2. (Currently Amended) The method for preparing the PHA block copolymer according to claim 1, wherein the block copolymer is heated to a temperature ranging from a melting point to thermal decomposition temperature thereof, thereby preparing a permanently deformed particular shape, and the permanently shaped material is subjected to constant external force at near room temperature for a predetermined period of time, thereby forming a shaped material having a temporary shape.

3. (Currently Amended) The method for preparing the PHA block copolymer according to claim 2, wherein the temporarily shaped material is rapidly recovered to its original state of the permanently shaped material by heating the temporarily shaped material to a temperature ranging from a glass transition temperature to melting point thereof.

4. (Currently Amended) The method for preparing the PHA block copolymer according to claim 1, wherein the content of 3HV in the total monomers of the copolymer is within the range of 10 to 90 mol%.

5. (Currently Amended) The method for preparing the PHA block copolymer according to claim 1, wherein the molecular weight of the copolymer is approximately in the range of several tens of thousands to several millions.

6. (Currently Amended) The method for preparing the PHA block copolymer according to claim 1, wherein the copolymer further comprises not more than 70 mol% of a hydroxy acid repeating group of Formula 3, based on the total polymer:



(Formula 3)

wherein p and q are independently not less than 2.

7-8. (Canceled)

9. (Currently Amended) The method for preparing the PHA block copolymer according to claim 81, wherein the PHA block copolymer is prepared by culturing the *Pseudomonas* sp. HJ-2 strain with supply of heptanoic acid as a sole carbon source.

10-14. (Cancelled)

15. (Currently Amended) The [[A]] method for preparing [[a]] the PHA block copolymer according to claim 1, wherein the PHA block copolymer is prepared by culturing a microorganism transformed with a short-chain-length PHA synthetic gene of a *Pseudomonas* sp. HJ-2 strain capable of biosynthesizing a PHA block copolymer of claim ~~Claim~~ 1 or by cell-free protein synthesis using the same gene.

16-19. (Cancelled)